Aluminum lightens the world
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FY2026 Business Briefing
At the Forefront of Recycling
① Aluminum Can Recycling



October 19, 2026
Environmental Leading Department
'MONOZUKURI' Core Manufacturing Innovation Division
UACJ Corporation

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Understanding Aluminum Beverage Cans Better

What makes such an advanced circular economy possible?
Here, we discuss aluminum properties, required beverage container characteristics, and usage

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Advantages of Aluminum Beverage Cans – Tapping the full potential of the material



✓**Sealed**

A good way to enjoy a cold beer

✓**Light and conducts heat well**

Economical shipping, fast cooling

✓**Ideal for mass/homogeneous production**

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Aluminum as Beverage Can Stock – From a recycling perspective



✓**Easy to sort**

✓**An inherently valuable material (metal)**

✓**Collection networks that make sense economically**

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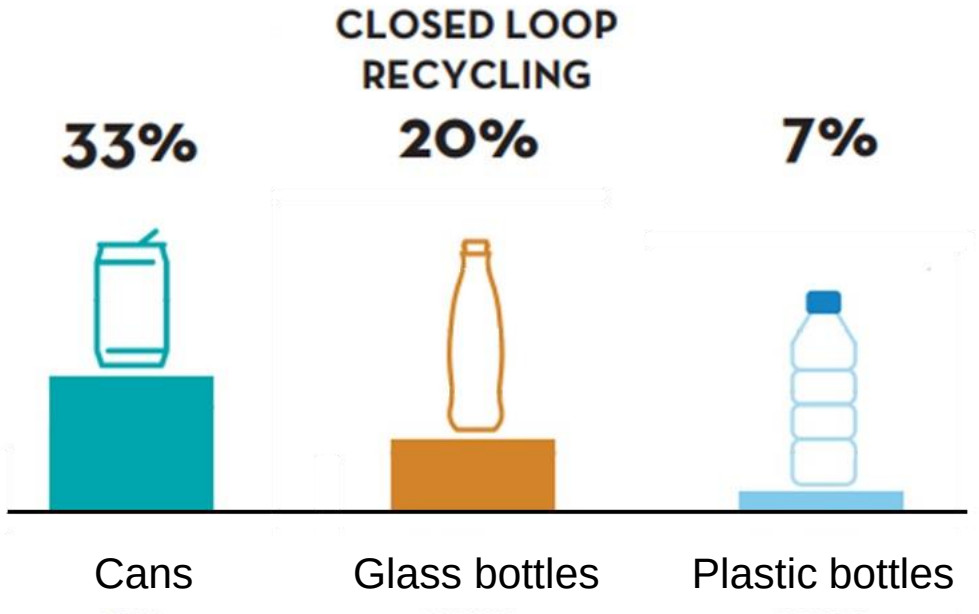
Container Stock Good for Recycling – Aluminum

Current worldwide beverage container recycling

Recycling rate: amount reused instead of discarded



Rate of recycling into the same type of container stock

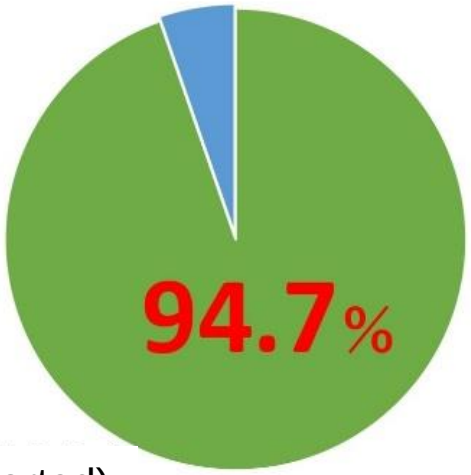


Reference: *Aluminum, the Sustainable Option for Beverage Cans* (PDF)

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Aluminum Can Recycling in Japan – High collection rate and quality

Recycling rate

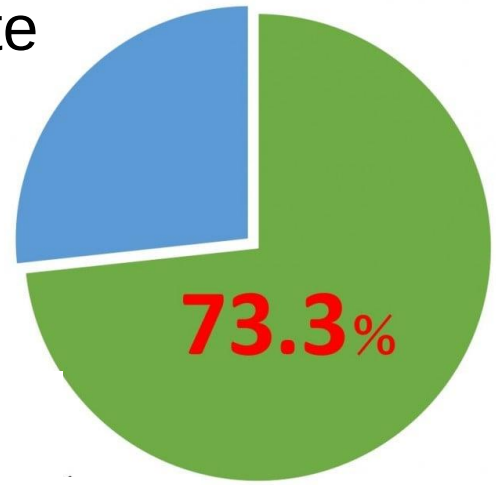


Amount recycled (domestic/exported):
280,492 tons (216,237+64,255 tons)
Domestic consumption: 296,292 tons

＝94.7%

FY2024: 99.8%

Can-to-can rate



Amount used for can stock:
158,595 tons
Domestic recycling:
216,237 tons

=73.3%

FY2024: 75.7%

Source: Recycling Rate | Japan Aluminum Can Recycling Association

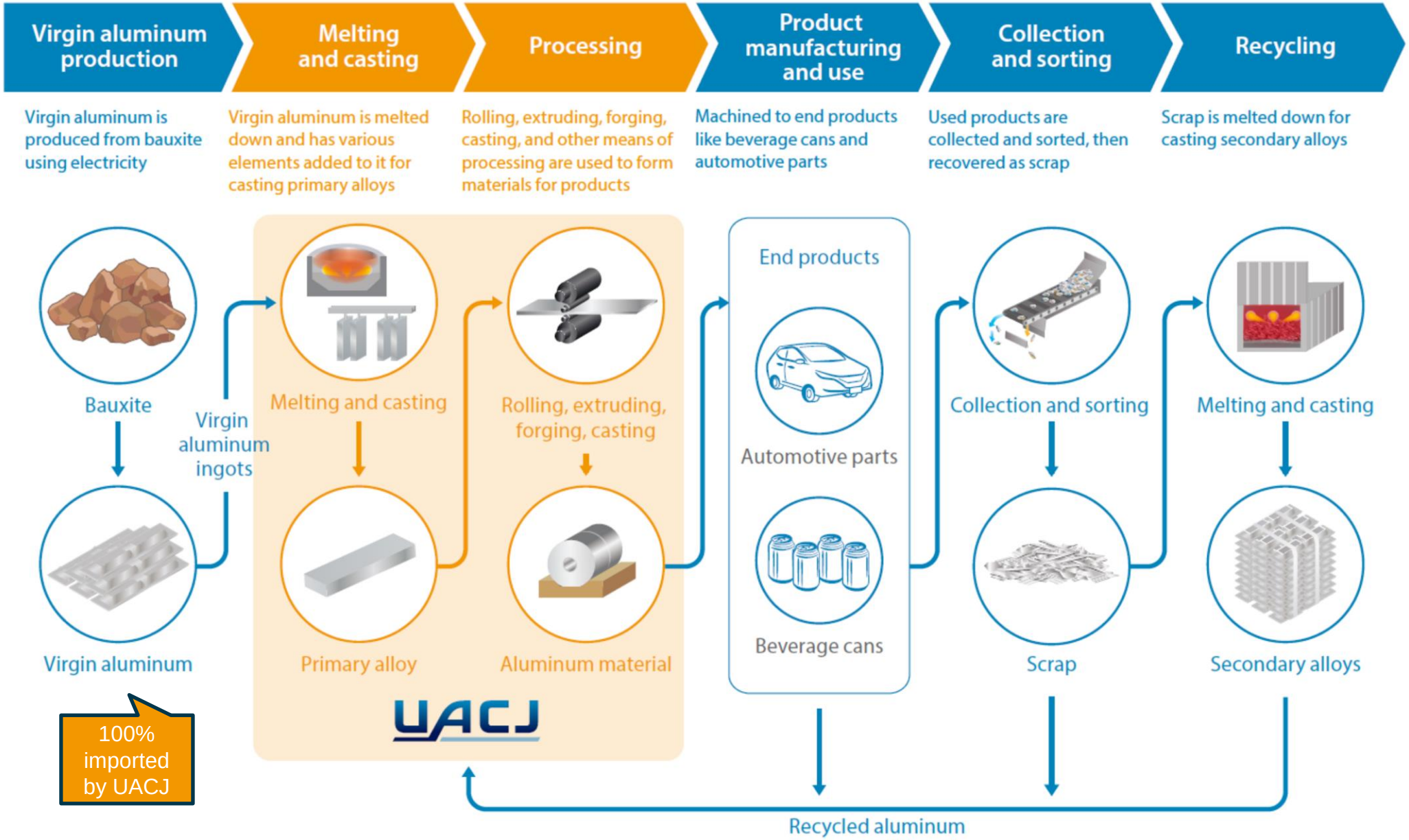
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Aluminum Recycling and Climate Change

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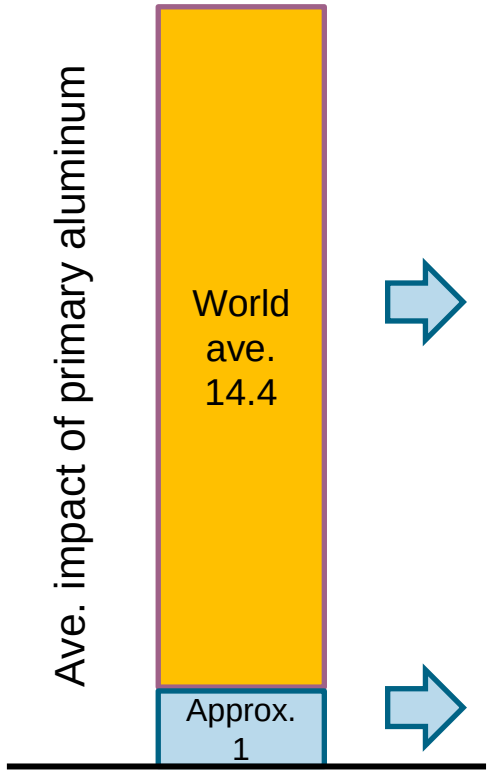
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Recycling Aluminum



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Environmental Impact (GHG) of Wrought Aluminum Products



Kilogram of GHG emissions per kg produced

① Raw materials

- Scope 3, Category 1 (indirect emissions)

Recycling is essential for reduction

② Processing into sheet, tubes, and bars

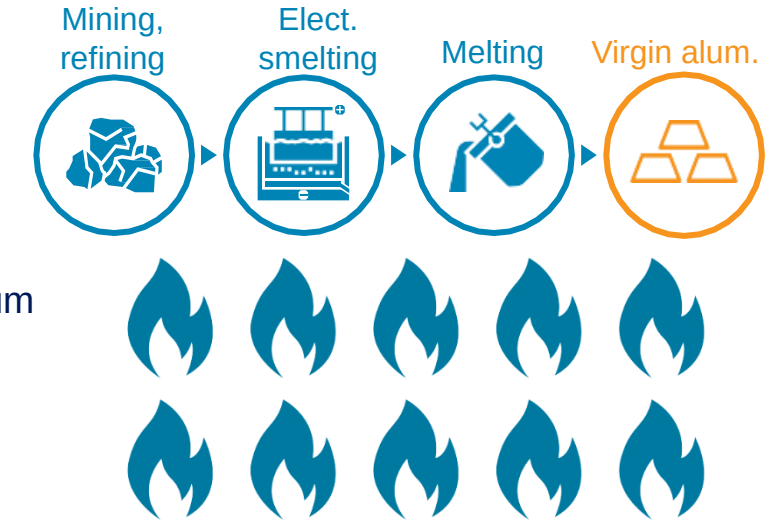
- Scope 1+2 (direct emissions, electricity)

Source: Primary Aluminum Greenhouse Gas Emissions Intensity – International Aluminum Institute

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Benefits of Aluminum Recycling

Renewable energy used: only 3%



Virgin aluminum

100%



Recycled aluminum

3%

GHG from producing 1 kg of virgin vs. recycled aluminum

14.5

$kgCO_2e/kg\ Al$

0.3

$kgCO_2e/kg\ Al$

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Environmental Benefits of Aluminum Can Recycling

Greatly saves energy and reduces CO_2 emissions across society as a whole

Recycled aluminum cans: Approx. 220,000 tons*

Saves approx. 30 billion MJ of energy

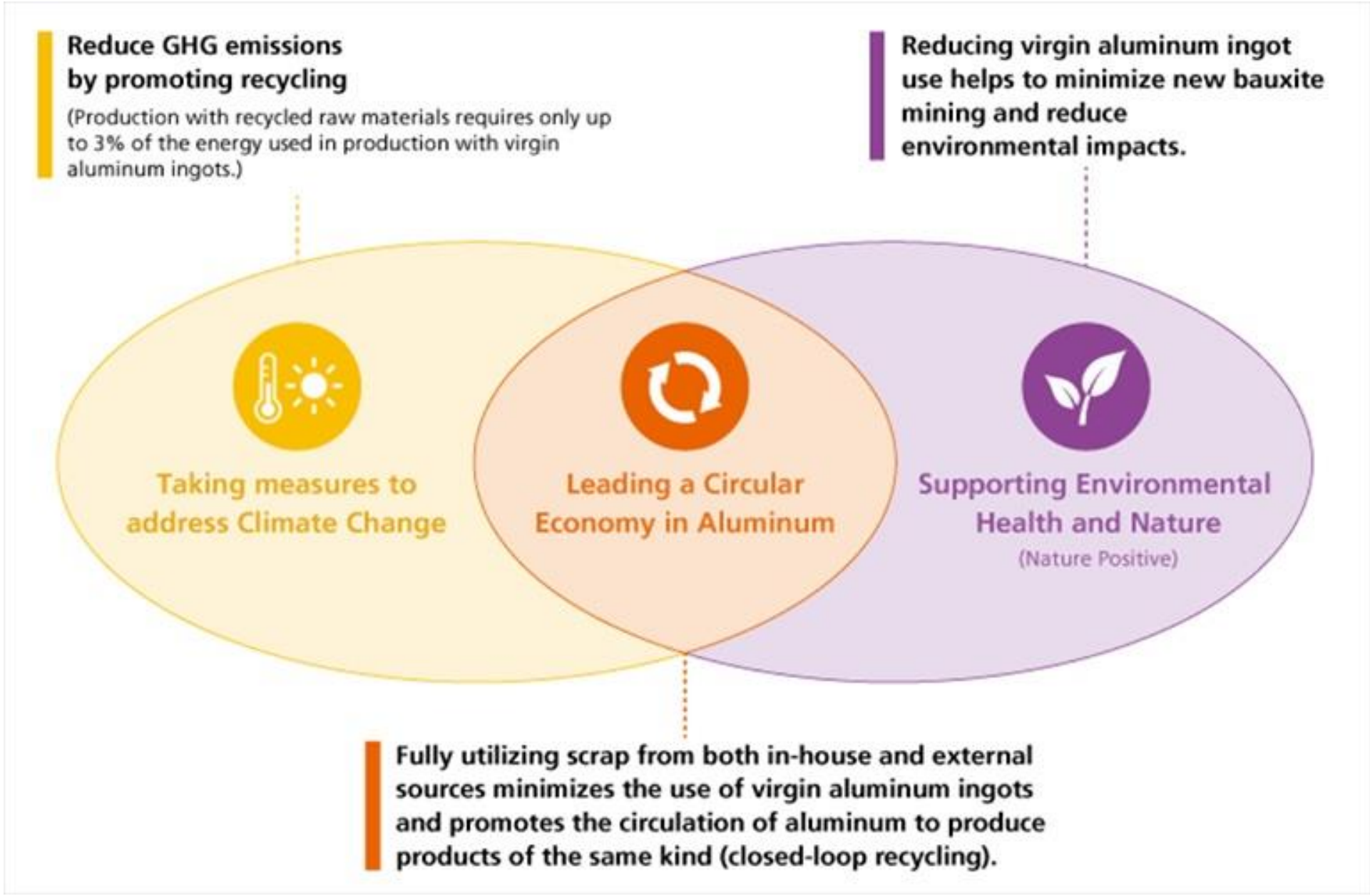


Nearly 15 days of electricity for all 50 million households nationwide

*Aluminum cans recycled in Japan in 2020, according to a Japan Aluminum Can Recycling Association publication on recycling
Inventory Analysis Report on Melting Scrap for Wrought Materials, Japan Aluminum Association

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Three Environmental Materialities at UACJ



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Developments in the Beverage Can Value Chain

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Appreciation of Recyclable Materials – Driving use of aluminum

European Packaging and Packaging Waste Regulation (PPWR): Phased in from August 2026

→ Aluminum cans in the value chain are recyclable and can have high recycled content

Regulatory developments on recycled materials under EU circular economy policies

Segment	Name and Description
Automotive	Regulation on Circularity Requirements for Vehicle Design and on Management of End-Of-Life Vehicles Mandates use of recycled plastic
Batteries	Batteries Regulation Mandates use of recycled materials such as copper, nickel, and lithium
Containers, packaging	Packaging and Packaging Waste Regulation (PPWR) Bans disposable/single-use containers Mandates use of recycled plastic content in plastic packaging
Construction, buildings	Construction Products Regulation Prioritizes use of recycled materials

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ASI Performance- and CoC-Certified Materials

ASI Standard Name	Certification Mark	Criteria, Standards
Performance Standard	asi CERTIFIED PERFORMANCE	Does the factory or business meet ESG standards?
Chain of Custody Standard	asi CERTIFIED CHAIN OF CUSTODY	Are certified materials suitably tracked and managed, from mining until products are finished?



Acquire and renew certifications as a leading company in the industry
Participate in the establishment of global regulations

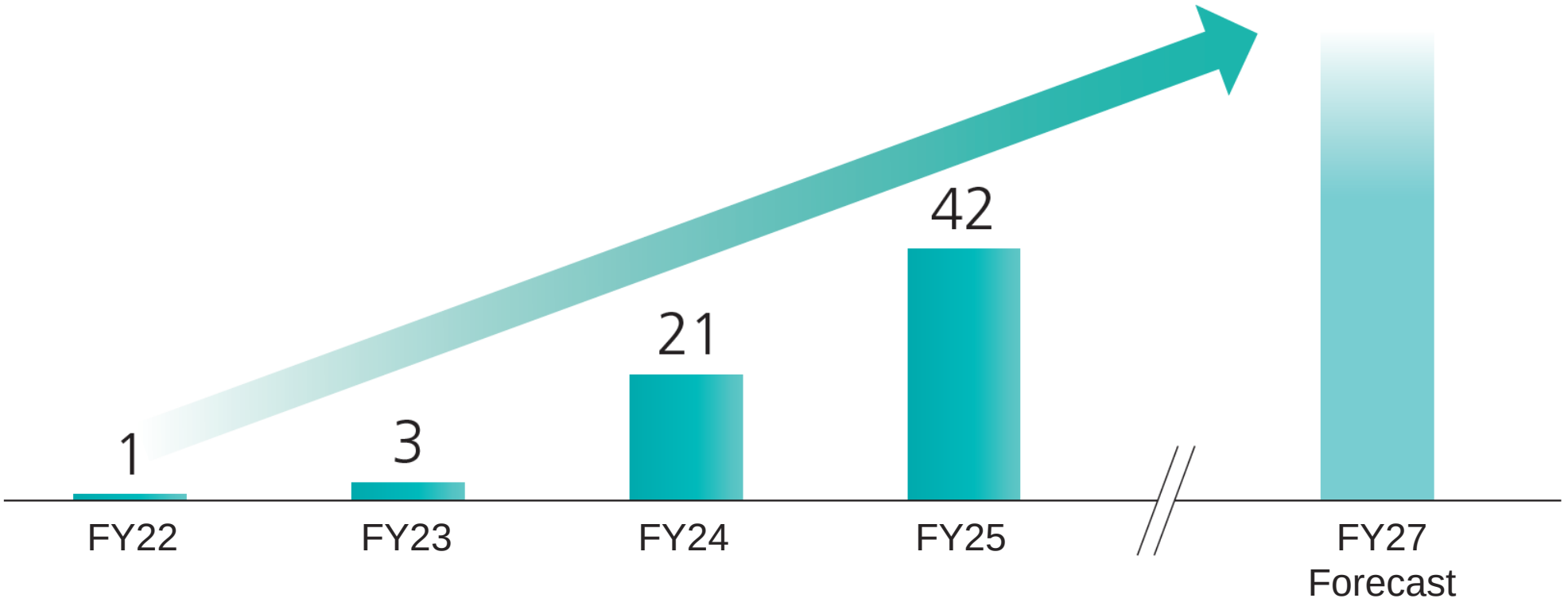
Cases where acquiring ASI certification is set in the terms and conditions of doing business are increasing, especially among major overseas beverage can manufacturers.
In the future, this is also expected to expand from the European region to other regions, as well as to other fields.

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Needs for a Circular Economy: ASI CoC-certified materials, counted as mass balance inputs

Recycled materials provide environmental assurance
More can stock customers around the world are requesting certified materials

Sales volume of ASI-certified materials



※ Calculations are based on the 2022 fiscal year as 1.

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Further Improvements and Promising Technology

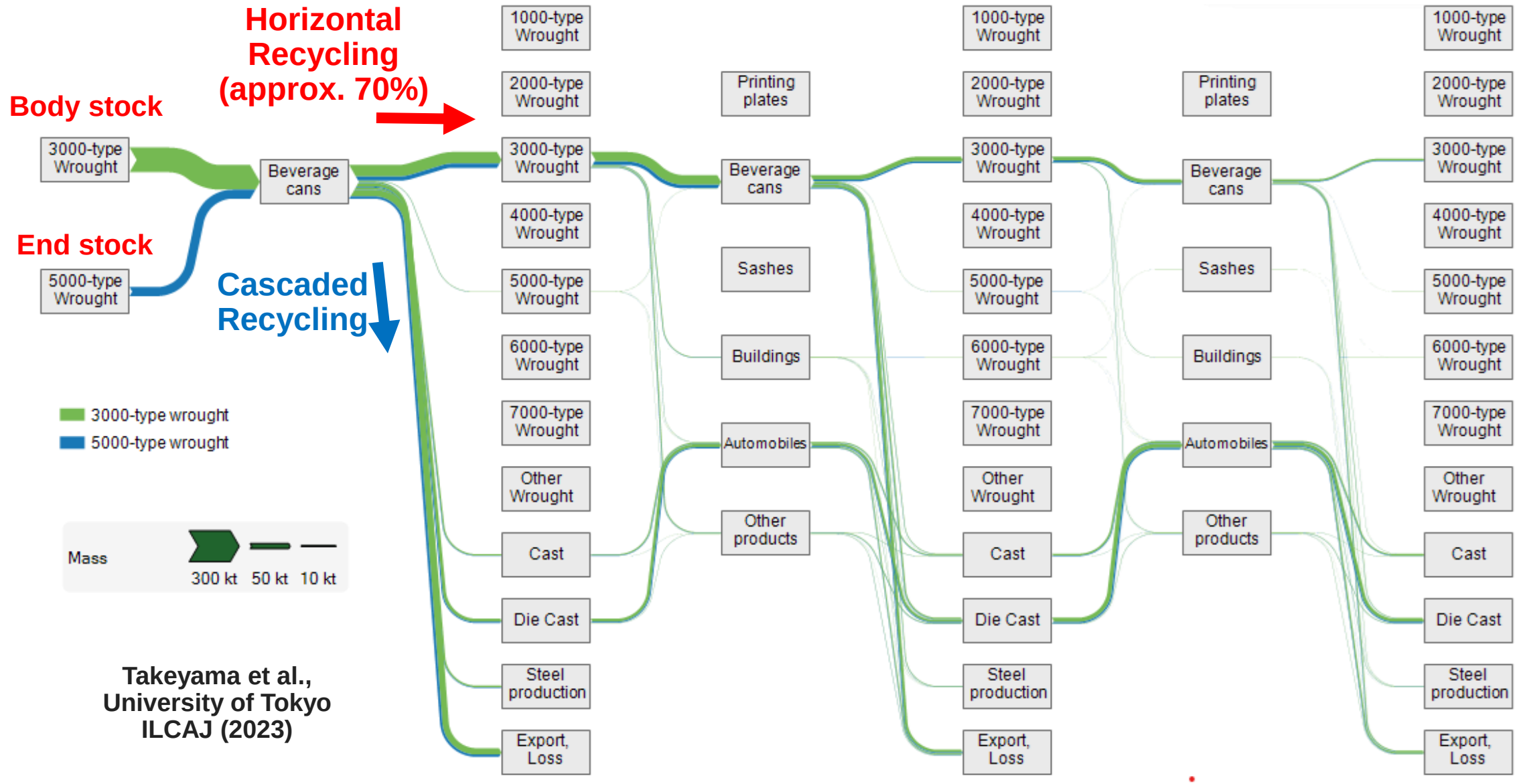
Measures supporting horizontal/closed-loop recycling

- **Development of easily recyclable alloys**
- **UBC separation technology**
  (better recycling with existing alloys)

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Considering Room for Growth – More horizontal recycling supports sustainability



Takeyama et al., University of Tokyo ILCAJ (2023)

Flow of aluminum in Japan

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Aluminum Alloy Recycling

Some limitations apply to recycling into different alloys, and the flow into casting is one-way

Wrought material

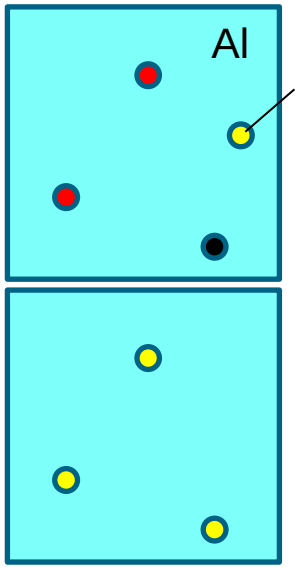
Applications, Products	Required Properties	Aluminum Alloy
Body stock for cans	**Elongation, workability**	**3000 series (Mn, Mg)**
End stock for cans	**Strength, workability**	**5000 series (Mg)**
Aluminum foil for batteries	Workability, surface properties	1000 series
Automotive heat exchanger fins/tubes	Corrosion resistance, brazing process productivity	3000 series (Mn, Mg)/ 4000 series (Si) (clad material)
Automotive panels	Rigidity, corrosion resistance	5000 series (Mg) 6000 series (Mg, Si)

×

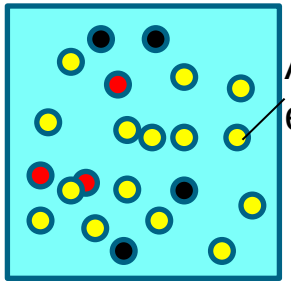
Casting material

Engine blocks, etc.	**High strength, formability in casting**	**AC, ADC series (Si)**

Fewer added elements



Many added elements



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UACJ Yamaichi Aluminum Can Recycling (UYAR) Impact on Recycling

An optimal solution for a linear economy:

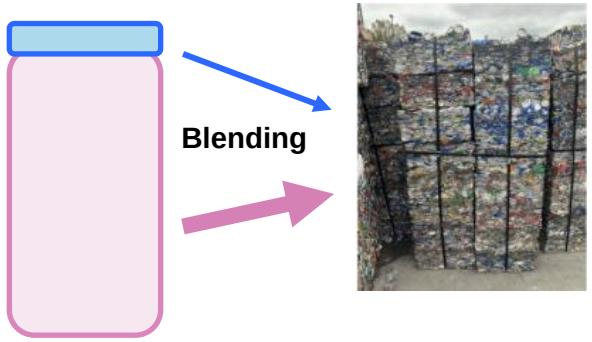
Potential for improvement in recycling

Used beverage cans (UBC) Collection and reuse Recycled content

Currently

AA5000

AA3000

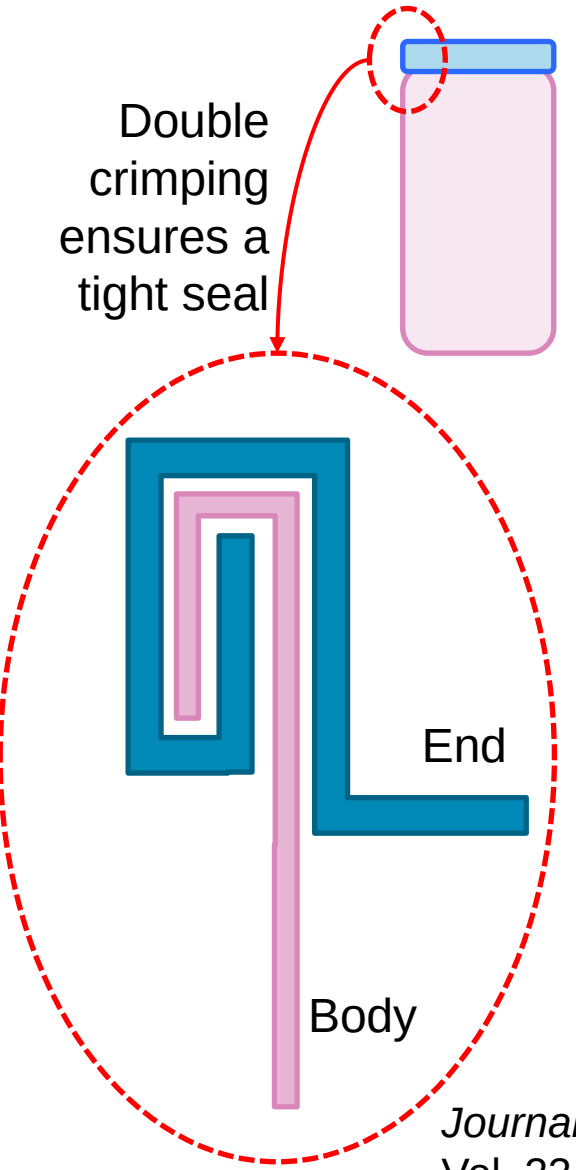


Low

High

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Impact of the End-Body Separation on Recycling



	Alloy	Si	Fe	Cu	Mn	Mg
End	5182	-0.20	-0.35	-0.15	0.20-0.50	4.0-5.0
Body	3104	-0.6	-0.8	0.05-0.25	0.8-1.4	0.8-1.3
Blend		-0.5	-0.7	0.07-0.23	0.6-1.2	1.4-2.0

Differences in composition determine the maximum recycled content

Separating the mixed material of UBC enables maximum use as container body and end material



AA5000

AA3000

For end material

For body material

Journal of Packaging Science & Technology, Japan, Vol. 23, No. 6 (2014)

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UYAR Impact on Recycling – Revolutionary materials

Currently

AA5000

AA3000

Blending



Low

High

UBC
(used beverage cans)

Collection and reuse

End-body separation process

Recycled content

In the Future

AA5000

AA3000

Blending





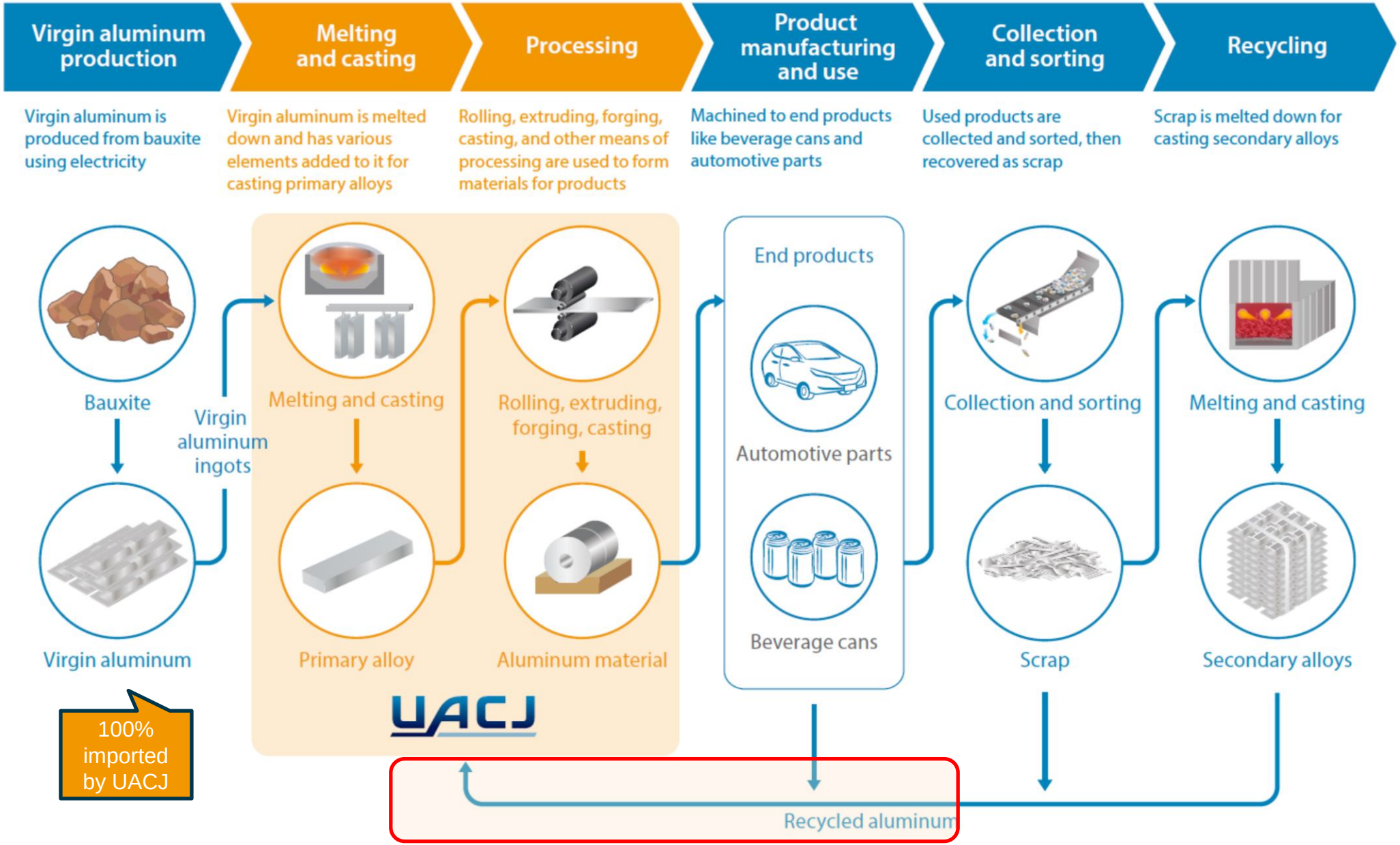
Separa-tion

High

High

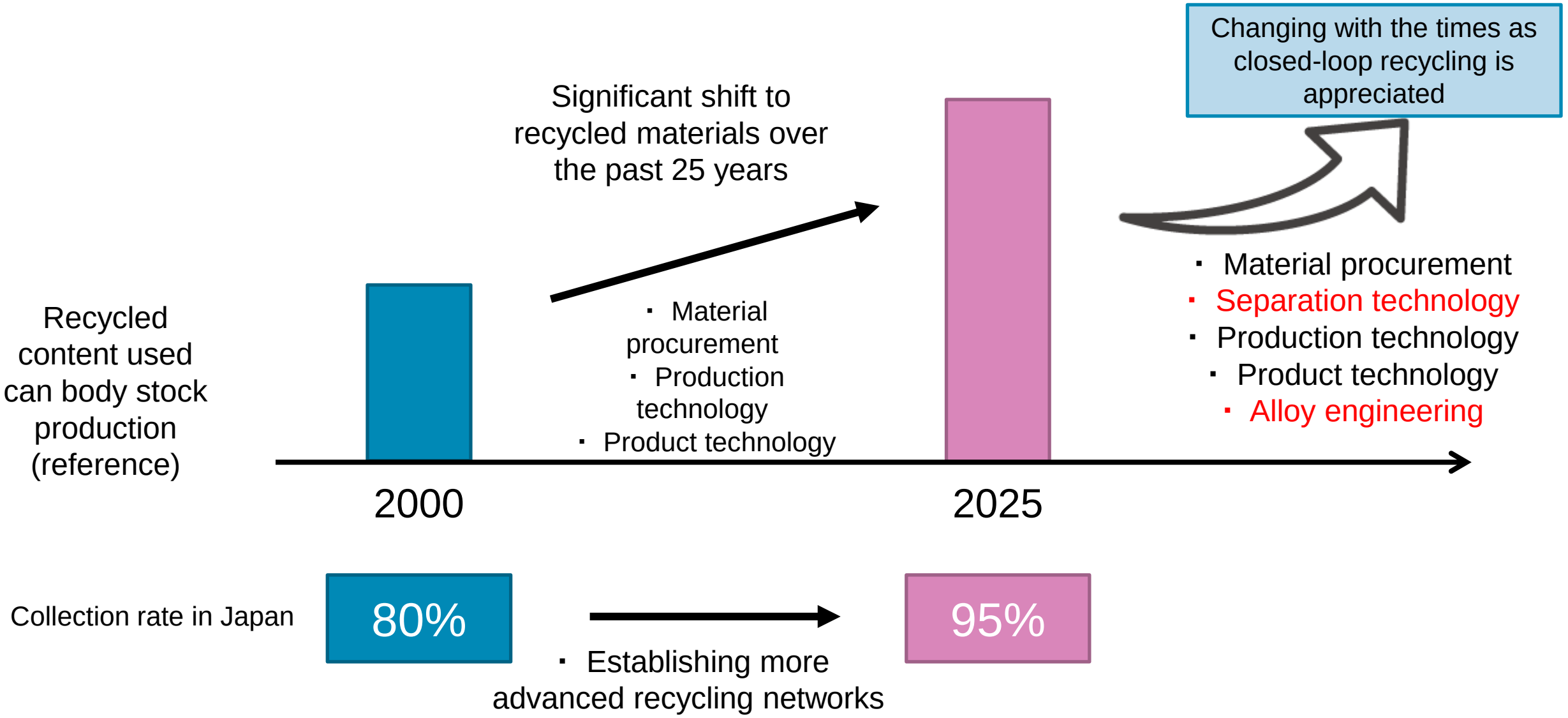
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At the Forefront of Recycling



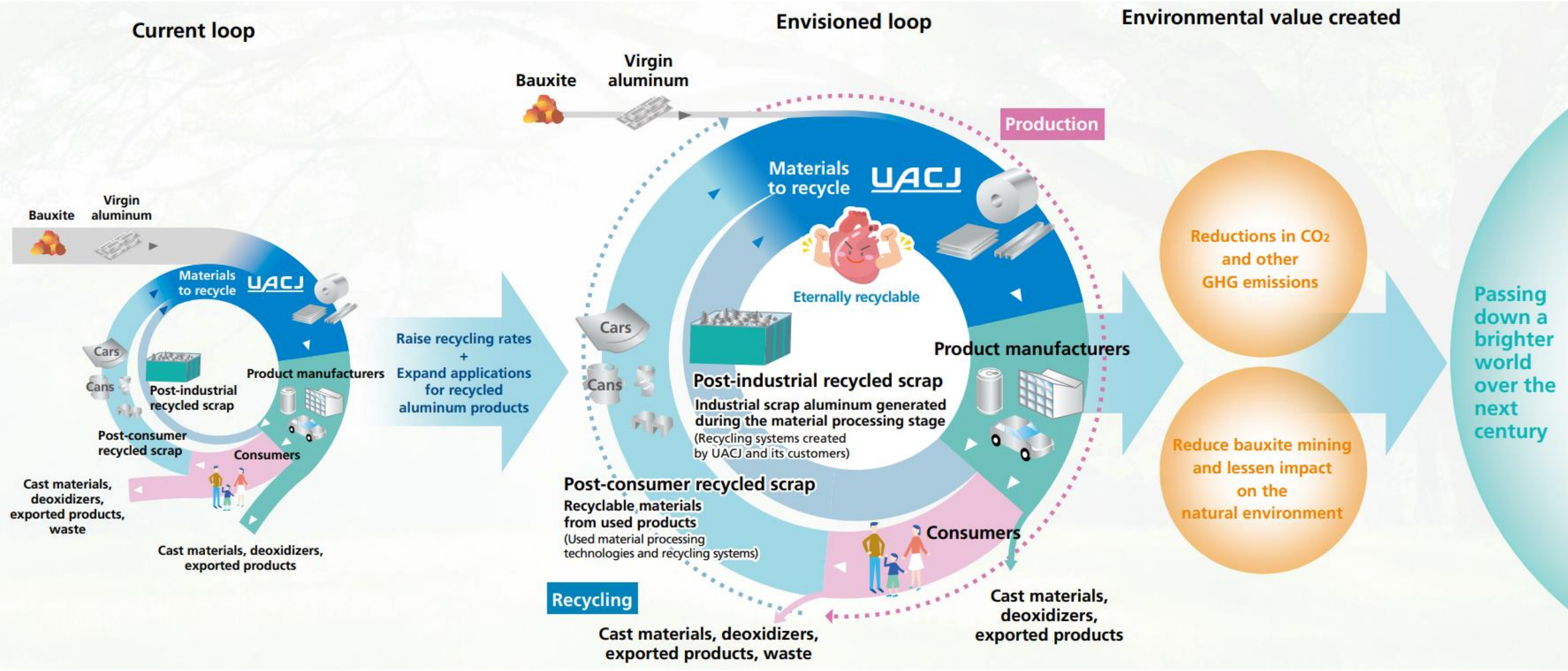
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Competitiveness Honed by UACJ – Skills and techniques capitalizing on materials



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Wrapping Up: Central Roles of Aluminum in Recycling



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